

Research Update

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Declining Labor Turnover and Turbulence

The rate of job loss has been on a secular decline for the last four decades or longer. Changes in demographics or industry composition do not account for the trend. This paper seeks to identify possible sources of this decline using a simple labor matching model with two types of workers, experienced and inexperienced, in which the former type faces a risk of skill loss during unemployment. When the skill loss occurs, the worker is required to restart his career and thus suffers a drop in his wage. I show that a higher risk of skill loss results in a lower job separation rate, because workers are willing to accept lower wages in exchange for keeping their jobs. Various other potential hypotheses are also examined in the model.

Supersedes Working Paper 15–29.
Working Paper 18–06. Shigeru Fujita, Federal Reserve Bank of Philadelphia Research Department.

On the Economics of Digital Currencies

Can a monetary system in which privately issued cryptocurrencies circulate as media of exchange work? Is such a system stable? How should governments react to digital currencies? Can these currencies and government-issued money coexist? Are cryptocurrencies consistent with an efficient allocation? These are some of the important questions that the sudden rise of cryptocurrencies has brought to contemporary policy discussions. To answer these questions, we construct a model of competition among privately issued fiat currencies. We find that a purely private arrangement fails to implement an efficient allocation, even though it can deliver price stability under certain technological conditions. Currency competition creates problems for monetary policy implementation under conventional methods. However, it is possible to design a policy rule that uniquely implements an efficient allocation by driving private currencies out of the market. We also show that unique implementation of an efficient allocation can be achieved without government intervention if productive capital is introduced.

Working Paper 18–07. Jesús Fernández-Villaverde, University of Pennsylvania, NBER, CEPR, and Federal Reserve Bank of Philadelphia Visiting Scholar; Daniel Sanches, Federal Reserve Bank of Philadelphia Research Department.

Accounting for the Sources of Macroeconomic Tail Risks

Using a multi-industry real business cycle model, we empirically examine the microeconomic origins of aggregate tail risks. Our model, estimated using industry-level data from 1972 to 2016, indicates that industry-specific shocks account for most of the third and fourth moments of GDP growth.

Working Paper 18–08. Enghin Atalay, University of Wisconsin-Madison; Thorsten Drautzburg, Federal Reserve Bank of Philadelphia Research Department; Zhenting Wang, Tianhong Asset Management.

The Interplay Among Financial Regulations, Resilience, and Growth

Interconnectedness has been an important source of market failures, leading to the recent financial crisis. Large financial institutions tend to have similar exposures and thus exert externalities on each other through various mechanisms. Regulators have responded by putting more regulations in place with many layers of regulatory complexity, leading to ambiguity and market manipulation. Mispricing risk in complex models and arbitrage opportunities through regulatory loopholes have provided incentives for certain activities to become more concentrated in regulated entities and for other activities to move into new areas in the shadow banking system. How can we design an effective regulatory framework that would perfectly rule out bank runs and TBTf (too big to fail) and to do so without introducing incentives for financial firms to take excessive risk? It is important for financial regulations to be coordinated across regulatory entities and jurisdictions and for financial regulations to be forward looking, rather than aiming to address problems of the past.

Working Paper 18–09. Franklin Allen, Imperial College London; Itay Goldstein, Wharton School, University of Pennsylvania; Julapa Jagtiani, Federal Reserve Bank of Philadelphia Supervision, Regulation, and Credit.

A Model of the Federal Funds Market: Yesterday, Today, and Tomorrow

The landscape of the federal funds market changed drastically in the wake of the Great Recession as large-scale asset purchase programs left depository institutions awash with reserves, and new regulations made it more costly for these institutions to lend. As traditional levers for implementing monetary policy became less effective, the Federal Reserve introduced new tools to implement the target range for the federal funds rate, changing this landscape even more. In this paper, we develop a model that is capable of reproducing the main features of the federal funds market, as observed before and after 2008, in a single, unified framework. We use this model to quantitatively evaluate the evolution of interest rates and trading volume in the federal funds market as the supply of aggregate reserves shrinks. We find that these outcomes are highly sensitive to the dynamics of the distribution of reserves across banks.

Working Paper 18–10. Gara Afonso, Federal Reserve Bank of New York; Roc Armenter, Federal Reserve Bank of Philadelphia Research Department; and Benjamin Lester, Federal Reserve Bank of Philadelphia Research Department.

Does Scale Matter in Community Bank Performance? Evidence Obtained by Applying Several New Measures of Performance

We consider how size matters for banks in three size groups: banks with assets of less than \$1 billion (small community banks), banks with assets between \$1 billion and \$10 billion (large community banks), and banks with assets between \$10 billion and \$50 billion (midsize banks). Community banks have potential advantages in relationship lending compared with large banks. However, increases in regulatory compliance and technological burdens may have disproportionately increased community banks' costs, raising concerns about small businesses' access to credit. Our evidence suggests that (1) the average costs related to regulatory compliance and technology decrease with size; (2) while small community banks exhibit relatively more valuable investment opportunities, larger community banks and midsize banks exploit theirs more efficiently and achieve better financial performance; (3) unlike small community banks, large community banks have financial incentives to increase lending to small businesses; and (4) for business lending and commercial real estate lending, large community banks and midsize banks assume higher inherent credit risk and exhibit more efficient lending. Thus, concern that small business lending would be adversely affected if small community banks find it beneficial to increase their scale is not supported by our results.

Supersedes Working Paper 16–15.

Working Paper 18–11. Joseph P. Hughes, Rutgers University; Julapa Jagtiani, Federal Reserve Bank of Philadelphia Supervision, Regulation, and Credit; Loretta J. Mester, Federal Reserve Bank of Cleveland and Wharton School, University of Pennsylvania; Choon-Geol Moon, Hanyang University.

Shrinking Networks: A Spatial Analysis of Bank Branch Closures

As more consumers take advantage of online banking services, branch networks are declining across the country. Limited attention has been given to identifying any possible spatial patterns of branch closures and, more importantly, the community demographics where branches close their doors. This analysis uses an innovative spatial statistics concept to study financial services: Using data from 2010 to 2016, a random labelling test is conducted to understand branch closure clustering in the Philadelphia, Chicago, and Baltimore metropolitan statistical areas (MSAs). Additionally, spatial autocorrelation is tested, and an MSA-level spatial regression analysis is done to see if there is a pattern to branch closures in metropolitan areas. I find evidence of branch closure clusters in the Chicago and Philadelphia MSAs; however, this spatial pattern is only observable within the suburbs, not the primary city itself. Using a random labelling test is a methodological innovation in regional economic studies and propels our understanding of banking deserts and underserved neighborhoods.

Working Paper 18–12. Anna Tranfaglia, Federal Reserve Bank of Philadelphia Payment Cards Center.